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## Investigating Users' Perception of Stakeholder Approach During IT Adoption in Organizations

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### Abstract

The success of IT adoption in organizations not only depends on technical issues but also on social issues. Many researchers have called for balancing technical and social issues during IT adoption in organizations. This paper explores user perceptions of stakeholder approach during IT adoption in organizations. The paper is based on two case studies. The study results indicate that stakeholder approach may be useful during IT adoption in organizations. The results suggest that stakeholder approach have a potential to improve IT adoption success in organizations through securing stakeholder buy-in. The results also suggest that involving stakeholders during IT adoption in organizations may result in positive outcomes.

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### 1. Introduction

The complexity of IT adoption in organizations has been highlighted by many researchers [1, 2]. The main challenge of IT adoption is the need to reconcile different constituencies' worldviews in the organizations. Little research has been conducted on understanding the perceptions of users regarding the importance of stakeholder approach during IT adoption in organizations. The

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stakeholder approach has been credited with securing buy-in from users of the technology during adoption in organizations [3]. The literature points to the importance of stakeholder approach during IT adoption in organizations.

The purpose of this study is to explore user perceptions of the importance of stakeholder approach during IT adoption in organizations. The study is based on case studies of two organizations that agreed to participate in the research. The study focuses on perceptions of users on the importance of stakeholder approach during IT adoption in organizations. The study was guided by the following questions: What are the users' perceptions of the stakeholder approach during IT adoption in organizations? What are the perceived users' expected benefits of stakeholder approach during IT adoption in organizations? This paper is structured as follows: Section, 2, presents a brief literature on IT adoption and stakeholder approach. This is followed by section 3 which discusses research methodology. Section 4 then presents the research results. Finally section 5 of the paper presents the conclusion.

## 2. STAKEHOLDER APPROACH DURING IT ADOPTION IN ORGANIZATIONS

Despite the existence of several models and frameworks on IT adoption challenges still exist during IT adoption in organizations [4]. The inability of existing models and frameworks to address diverse perceptions of stakeholders and expectations is a challenge to IT adoption success in organizations [5]. Most models and frameworks are deterministic in nature because they fail to recognize the importance of different stakeholder worldviews, which is part of IT adoption and the use of technology in organizations [4]. IT adoption needs to be based on social-technical adoption models instead of a technological linear approach [6]. Benefits of most IT adoptions in organizations are not obvious to all stakeholders due to different worldviews. According to Lyytinen et al. [6], deciding who determines the important factors to consider during IT adoption is important in organizations.

Stakeholders have been defined as individuals or groups with an organizational interest (stake) who may be impacted by the decisions [7, 2]. The interaction between an organization and stakeholders can go two ways, in that the stakeholder can influence the organization and the organization can influence the stakeholders. Most common important stakeholders to an organization include community groups, customers, employees, governments and suppliers [8, 7]. However in its broadest sense stakeholders includes nearly all individuals and groups in the environment that can impact or are impacted by the organization decisions (Freeman, 2011). Stakeholder can be primary or secondary depending on their stake and level of influence to the organization. In addition to that stakeholders can be strategic to the organization as they may provide several important opportunities. Figure 1 show different organizational stakeholders with different interests.



Figure 1: Stakeholder Management (Freeman, [7])

The stakeholder management assumption is that organizations to achieve their objectives they need to have relatively satisfied stakeholders. Based on this assumption decision makers are expected to make decision based on insights from stakeholders [8,7]. Stakeholder analysis which is part of stakeholder management concept is also important in understanding the relationships between organizations and society [7]. Stakeholder analysis is a useful tool for identifying critical stakeholders who have impact to IT adoption in organizations [7]. Stakeholder analysis helps to identify individuals, groups and institutions that will positively or adversely influence IT adoption in organization [7]. Stakeholder analysis helps to identify competing interests between stakeholders during IT adoption and secure their buy-in which is important for success [3]. Table 1 below shows the stakeholders analysis steps.

Step 1	Identify a vision or objective
Step 2	Describe a number of future states in terms of goals understandable by the stakeholder group
Step 3	Break the goals down into the process, technology, and organization and culture steps necessary to balance the organizational equilibrium
Step 4	Identify the stakeholder groups whose commitment is necessary to achieve each goal
Step 5	For each type of stakeholder, describe the needed changes, perceived benefits, and expected kinds of resistance
Step 6	Analyse the effort required to gain the necessary commitment from the stakeholder group
Step 7	Develop action plans for those stakeholder groups that are not committed enough

Table 1: Stakeholder Analysis (Source: Freeman: 2011)

Although stakeholder theory has been widely accepted in information systems research, examination of the impact of stakeholder conflicts in IT adoption is relatively new [2, 8, 9]. This has prompted many researchers to ask whether IT adoption decisions in organizations are made in the interest of stakeholders or executives [1, 8]. A major challenge is to decide who makes decisions on IT adoption issues in an organization. The challenge to IT adoption in organizations is reaching consensus were stakeholders constituencies have diverse worldviews about IT adoption benefits [3, 8]. Most IT adoption failures in organizations have been cited as associated with inadequate exploring of stakeholder requirements and making decisions without involving the affected stakeholders [1]. The independent creation of IT adoption decisions without consulting the affected stakeholders in the organization results in a gap in the intended needs of the affected stakeholders [10, 11]. Organizations have been urged to focus on meeting user requirements when adopting new systems [12].

Many researchers concur that most failures of IT adoption projects are associated with not satisfying stakeholder demands [1, 10]. Cordoba [8] states that stakeholder participation is important in information systems decisions as its success do not depend only on technical aspect in theory and practices but also on social aspects. In conclusion this section highlighted the importance of the stakeholder approach to IT adoption in organizations. This section notes that the diversity of stakeholder worldviews is a challenge to IT adoption in organizations. It advised the solution to IT adoption to come from those affected and closer to the problem situation. The next section discusses the research methodology used for the study.

### 3. Research Methodology

The previous section discussed the literature review on stakeholder approach and IT adoption in organizations. This section discusses the research methodology for study. The research design includes the research philosophical assumptions, research methods, data collection techniques, data analysis and presentation approach. The research methodology helps to investigating participants' perceptions of stakeholder approach during IT adoption in organization.

### *3.1 Research strategy*

A case study research strategy was found to be suitable for the understanding the complexity of IT adoption in organizations. The case study research allowed participants exposed to the same IT adoption environment to participate in the study. This research used two case studies which were sufficient for the research objectives. Yin [13] points out that case studies help the real-life context of IT adoption to be studied from the contextual perspective which it is part of. Yin [13] points out the need for careful investigation before selecting the case study to reduce chances of misrepresentation and problems of inaccessibility. The research used two organizations to answer the research questions. The basis for selecting the two organizations for the research was diversity and appropriateness of cases. In addition, the two organizations were extreme cases in terms of the number of departments in the organization which increased the diversity of stakeholders who were involved IT adoption.

### *3.2 Research Method*

About a hundred questionnaires were sent to each company and 90 valid questionnaires were returned from the two companies. The returned questionnaires represented a 45 percent response rate. A five point Likert scale was used to develop the questionnaire with a range, 1 = strongly disagree and 5 = strongly agree. Quantitative data from the questionnaires was captured and analyzed using SPSS (Statistical Package for the Social Science) version 8.0. Van Voorhis et al. [14] contend that unlike qualitative research, which does not have an agreed sample size, quantitative research offers guidelines on sample sizes needed for different statistical procedures. This means that every quantitative statistical procedure has rules in terms of sample size. Most researchers propose that statistics for detecting differences between or among groups (t-tests, ANOVA) require 30 participants per cell to achieve the minimum suggested power for an ordinary study [14]. The sample size of 90 cases was therefore found to adequate for the study. Reliability of the variables was tested using Cronbach alpha and the unreliable variables were dropped before computing the scores of the construct variable.

## **4. Research results**

The previous section discussed the research methodology for the study. This section presents the results from data collected from the two organizations that participated in the study. The organizations that participated in the study were all using enterprise resource planning (ERP) systems. The selected participants were previously involved in IT adoption in their organization. The study was, therefore, interested in their perceptions based on previous experience in IT adoption in their organization. The stakeholder constructs measures the respondents' perception of stakeholder participation importance during IT adoption in their organizations. The stakeholder constructs were adapted from the literature. The questionnaire was pretested as part of refining some of the unclear questions. This section is organized as follows: section 4.1 presents the demographic data, section 4.2 presents the frequencies of stakeholder approach variables, section 4.3 presents T-test results, section 4.4 presents analysis of variance and section 4.5 presents correlations.

### *4.1 Demographic characteristics*

This section presents the respondents' demographic characteristics which include: company type, age, gender, departments, position, education, and involvement in IT adoption, number of years in the organization and member status. There were equal numbers of respondents from retail and manufacturing companies. In terms of age, 30 percent of the respondents were 30 years and

below, 37 percent were between 31 and 40 years, 26 percent were between 41 and 50 years and finally 8 percent were 51 years and older. The majority of the respondents were males - 54 percent - compared to 46 percent for female respondents. Most of the respondents were from the Finance department, followed by Information Technology and then other departments.

In terms of positions of respondents, 28 percent were clerical, 27 percent were managers, 9 percent were supervisors and 37 percent were from others, in their organizations. The majority of the respondents had matriculation as their level of education compared to 36 percent of the respondents who had a first degree. The remaining 22 percent of the respondents had a second degree as their level of education. About 42 percent of the respondents were involved in IT adoption in their organization compared to 58 percent of respondents who were not involved. In terms of number of years in the organization, 34 percent of the respondents had two years or less, 26 percent had between three and five years, 20 percent had between six and ten years and 17 percent had more than ten years in the organization. About half of the respondents were members of a committee in their organization whilst half were not members of any committee in their organization.

#### 4.2 Stakeholder approach frequencies

This sub-section presents the frequency distribution of the stakeholder approach variables. The frequencies are based on the results collected using the questionnaires from the two organizations which participated in the study. Before the frequencies of constructs were analysed, the data was first transformed from a Likert scale of 5 to 3. The values, 1 - Agree, and 2 - Agree Strongly, were merged into 1 - Agree. Disagree and Strongly Disagree, were merged into Strongly Disagree. The neutral response remained the same during the frequency analysis. This resulted in in three value labels, Agree, Neutral and Disagree. This was done to make it easier to present the results in a graphical form as Agree and Strongly Agree all represent positive responses and Disagree and Strongly Disagree represent negative responses.

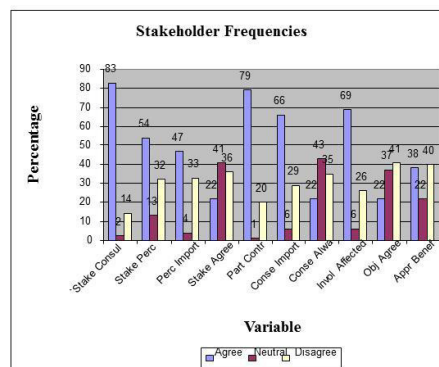


Figure 2: Stakeholder Participation Frequencies

Figure 2 shows frequencies of responses on stakeholder approach variables. Most of the respondents, 83 percent, agreed that consulting stakeholders during IT adoption in organization was important compared to those who disagreed or were neutral. Slightly above half of the respondents agreed that IT adoption decisions should be based on stakeholders, perspectives compared to those who disagreed or were neutral. Slightly less than half of the respondents agreed that stakeholder perspectives were important in IT adoption compared to those who disagreed or were neutral.

Slightly less than a quarter of the respondents agreed that there was always stakeholders' agreement on IT adoption benefits compared to those who disagreed or were neutral. A majority of the respondents, 79 percent, agreed that stakeholder participation could contribute to IT adoption success in organizations compared to those who disagreed or were neutral.

Most of the respondents, 66 percent, agreed that consensus was important in IT adoption in an organization compared to those who disagreed or were neutral. Less than a quarter of the respondents agreed that there was always consensus on IT adoption objectives in organization compared to those who disagreed or were neutral. Most of the respondents, 69 percent, agreed that the affected stakeholders should be involved in IT adoption compared to those who disagreed or were neutral. Less than a quarter of the respondents agreed that IT and stakeholders objectives always agreed compared to those who disagreed or were neutral. Slightly above a third of the respondents agreed that stakeholder's appreciated IT adoption benefits compared to those who disagreed or were neutral. The results show that most respondents agreed on six of the stakeholder construct variables, which had more than fifty percent agreement.

#### 4.3 T-test results

T-tests conducted between demographic variables and stakeholder constructs showed significant differences between company and the contribution of stakeholder participation to IT adoption success (.039) and stakeholder appreciation of IT adoption benefits (.027). The gender variable showed significant differences on existence of consensus on IT adoption objectives (.049) and whether IT adoption objectives always agree with stakeholder objectives (.009).

Table 2. T-test for demographic variables

Independent Variable	Dependent Variable	F value	Sig. (t)	Category
Company	Contribution of stakeholders	4.38	0.039*	Retail or Manufacturing
Company	Stakeholders appreciation	5.05	0.027*	Retail or Manufacturing
Gender	Always consensus	3.97	0.049*	Male or Female
Gender	Agree stakeholders objectives	7	0.009**	Male or Female
Involved	Consult stakeholder	5.95	0.017*	Yes or No
Involved	Stakeholder appreciate	7.49	0.008**	Yes or No
Committee member	Stakeholders always agree	9.21	0.014*	Yes or No
Committee member	Agree stakeholders objectives	19.16	0.002**	Yes or No

Note: \*  $p < 0.05$ , \*\*  $p < 0.01$ , \*\*\*  $p < 0.001$ , (n=90)

The involved variable showed significance difference with consulting stakeholder important in IT adoption (.017) and stakeholders' appreciation of IT adoption benefits (.008). The committee member variable showed significance difference with stakeholders always agree on IT adoption benefits (.014) and IT adoption benefits always agree with stakeholder objectives (.002). The next section presents the analysis of variance results.

#### 4.4 Analysis of variance

The analysis of variance (ANOVA) was used to assess significant differences between demographic variables with more than two categories in terms of net effects to the proposed IT governance constructs. In addition multiple post hoc was used to reveal which among the more than two categories differed significantly from one another. The analysis of variance performed showed significant differences between age demographic variable and affected stakeholder to be involved in IT adoption (.032). The major differences were between the 20-30 years and 31-40 years age groups.

Table 3. Analysis of variance

Independent Variable	Dependent Variable	F value	Significance (t)
Age of respondent	Affected stakeholders	2.38	0.048*
Education	Consult stakeholders	3.07	0.043*
Education	Stakeholders agree	4.15	0.020*
Education	Always consensus	2.80	0.000*
Education	Affected stakeholders	3.61	0.031*
Education	Stakeholder object. agree	5.37	0.006*
Education	IT Governance Component	3.78	0.028*
Department	Existence of consensus	4.09	0.002*
No. of years	Consult stakeholder	3.54	0.018*
No. of years	Participation contribute	3.22	0.027*

Note: \*  $p < 0.05$ , \*\*  $p < 0.01$ , \*\*\*  $p < 0.001$ , (n=90)

The education demographic variable showed significant differences between consulting stakeholders are important in IT adoption (.043) with the major difference on respondents with first degree and second degree. Education variable showed significant difference on stakeholders always agree on IT adoption benefits (.020) with the difference on respondents with matric and first degree. Education showed significant difference on existence of consensus on IT adoption objectives (.000), affected stakeholders to be involved in IT adoption (.031) and IT adoption objectives always agree with stakeholder objectives (.006). The department demographic variable showed significant difference on existence of consensus during IT adoption (.002).

The number of years in the organization showed significant difference with consulting stakeholders important during IT adoption (.018) and stakeholder participation contribute to IT adoption success (.027). The analysis of variance between demographic variables and constructs showed significant differences between departments and constructs' stakeholder participation ( $p < .019$ ) (Table 3). The analysis of variance (ANOVA) results also indicated significant differences between department demographic variable against stakeholder.

#### 4.5 Correlation results

Age had a positive correlation with should IT adoption decision be based on stakeholders' perception (.038), stakeholder participation contribute to IT adoption success (.032) and the affected stakeholder to be involved in IT adoption (.015). Number of years in the organization had a positive correlation with consulting stakeholder is important during IT adoption (.047) and stakeholder participation contribute to IT adoption success (.004). There is a positive correlation between the stakeholder total score and number of years in the organization (.043). The results suggest that the more number of years in the organization the higher the participant perception on stakeholder participation during IT adoption in organization. The results support the literature in that involving stakeholder in IT adoption may results in the buying and positive outcomes of the process.

Table 4. Correlation Matrix Analyses

Variable	Is consulting stakeholders important in IT adoption	Should IT adoption decision making be bases on stakeholders perspectives	Stakeholders' participation contribute to IT adoption success	Are affected stakeholders to be involved in IT adoption?	Stakeholder Participation score
Age		.219**	.226**	.257**	
No. of years	.210**		.302**		.213*

\*Correlation is significant at the 0.05 level (2-tailed), \*\*Correlation is significant at the 0.01 (2-tailed), (n=90)

## 5. Discussion

This section discusses the study results. Quantitatively, most stakeholder participation construct variables scored highly as per participants' response. Most participants were in support of stakeholder consultation and involvement during IT adoption in organizations. In addition, the



majority noted that there was always a lack of consensus, agreement and appreciation of IT adoption benefits by stakeholders in organizations. Generally speaking, most participants agreed that IT adoption success depended on stakeholder participation in organizations.

The t-test results suggest that there are significant differences on respondents' perception on some constructs based on the demographic variables such as company, gender, involved and committee member. The analysis of variance (ANOVA) also showed significant differences on some constructs and demographic variable such as age, education, department and number of years in the organizations. The study results support the literature that stakeholders have different worldviews with regards to their perception of IT adoption in organizations.

## 5. Conclusion

The results suggest that stakeholder approach can be useful during IT adoption, to share users' worldviews and secure their buy-in which is important for success. The study argues that IT adoption success in organizations depends not only on addressing technical issues but also on addressing soft issues. IT adoption in organizations as a social construct requires stakeholder involvement for its success. The results suggest that it may be worthwhile to consider stakeholder approach during IT adoption in organizations to influence positive outcomes. The study contributes to our understanding of users' perceptions of stakeholder approach during IT adoption in organizations.

Although the study contributed to the understanding of IT adoption in organizations it has its limitations which need to be acknowledged. One of the major limitations of the study is that it is based on case study research which makes it difficult to generalize the results of the study. The limitation provides an opportunity for further research using a survey. In addition, a longitudinal action research study may also be necessary during IT adoption in organizations. However, despite these limitations, the study provides opportunities further research on this topic of IT adoption in organizations.

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